

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/485,421

DATE: 07/30/2001

TIME: 16:07:28

Input Set : A:\Upap0350.app

Output Set: N:\CRF3\07302001\I485421.raw

3 <110> APPLICANT: Ayyavoo, Velpandi  
 4 Patel, Mamata  
 5 Kieber-Emmons, Thomas  
 6 Weiner, David B.  
 7 Mahalingam, Sundaramy  
 9 <120> TITLE OF INVENTION: Functional Fragments of HIV-1 VPR Protein and Methods  
 10 of Using the Same  
 12 <130> FILE REFERENCE: UPAP0350  
 14 <140> CURRENT APPLICATION NUMBER: 09/485,421  
 C--> 15 <141> CURRENT FILING DATE: 2000-10-05  
 17 <150> PRIOR APPLICATION NUMBER: 60/055,754  
 18 <151> PRIOR FILING DATE: 1997-08-14  
 20 <160> NUMBER OF SEQ ID NOS: 18  
 22 <170> SOFTWARE: PatentIn Ver. 2.1  
 24 <210> SEQ ID NO: 1  
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 26 <212> TYPE: PRT  
 27 <213> ORGANISM: Artificial Sequence  
 29 <220> FEATURE:  
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 35 Asp Trp Thr Leu Glu Leu Leu Glu Leu Lys Asn Glu Ala Val Arg  
 36 20 25 30  
 39 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
 40 35 40 45  
 42 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu  
 43 50 55 60  
 45 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg  
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 65 20 25 30  
 67 Lys His Phe Asp Pro Arg Leu Leu Thr Ala Leu Gly Asn His Ile Tyr  
 68 35 40 45  
 70 Asn Arg His Gly Asp Thr Leu Glu Gly Ala Gly Glu Leu Ile Arg Ile

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71 50 55 60  
 73 Leu Gln Arg Ala Leu Phe Met His Phe Arg Gly Gly Cys Ile His Ser  
 74 65 70 75 80  
 76 Arg Ile Gly Gln Pro Gly Gly Asn Pro Leu Ser Ala Ile Pro Pro  
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 78 Ser Arg Ser Met Leu  
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 92 Met Thr Asn Pro Arg Glu Thr Ile Pro Pro Gly Asn Ser Gly Glu Glu  
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 94 Thr Ile Glu Glu Ala Phe Asp Trp Leu Asp Arg Thr Val Glu Ala Ile  
 95 20 25 30  
 96 Asn Arg Glu Ala Val Asn His Leu Pro Arg Glu Leu Ile Phe Gln Val  
 97 35 40 45  
 101 Trp Gln Arg Ser Trp Arg Tyr Trp His Asp Glu Gln Gly Met Ser Arg  
 102 50 55 60  
 104 Ser Tyr Thr Lys Tyr Arg Tyr Leu Cys Leu Met Gln Lys Ala Val Phe  
 105 65 70 75 80  
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 108 85 90 95  
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 126 Asp Trp Thr Leu Glu Leu Leu Glu Leu Lys Asn Glu Ala Val Arg  
 127 20 25 30  
 129 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
 130 35 40 45  
 132 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu  
 133 50 55 60  
 135 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg  
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 142 <210> SEQ ID NO: 5  
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155 20 25 30  
157 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
158 35 40 45  
160 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu  
161 50 55 60  
163 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg  
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185 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
186 35 40 45  
188 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu  
189 50 55 60  
191 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg  
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211 20 25 30  
213 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
214 35 40 45

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216 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu  
217 50 55 60  
218 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg  
219 65 70 75 80  
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221 85 90 95  
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230 1 5 10 15  
231 Asp Trp Thr Leu Glu Leu Leu Glu Leu Lys Asn Glu Leu Val Arg  
232 20 25 30  
233 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
234 35 40 45  
235 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu  
236 50 55 60  
237 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg  
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250 Asp Trp Thr Leu Glu Leu Leu Glu Leu Lys Asn Glu Ala Val Arg  
251 20 25 30  
252 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
253 35 40 45  
254 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Pro Leu Ile Arg Ile Leu  
255 50 55 60  
256 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg  
257 65 70 75 80  
258 Ile Gly Ile Ile Gln His Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser  
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270 20 25 30  
271 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
272 35 40 45  
273 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Pro Leu Ile Arg Ile Leu  
274 50 55 60  
275 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg  
276 65 70 75 80  
277 Ile Gly Ile Ile Gln His Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser  
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281 <212> TYPE: PPT  
282 <213> ORGANISM: Artificial Sequence  
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291 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence  
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294 Met Glu Gln Ala Pro Glu Asp Gln Gly Pro Gln Arg Glu Pro Tyr Asn  
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297 Asp Trp Thr Leu Glu Leu Leu Glu Leu Lys Asn Glu Ala Val Arg  
 298 20 25 30

300 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
 301 35 40 45

303 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ser Leu  
 304 50 55 60

306 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg  
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325 Asp Trp Thr Leu Glu Leu Leu Glu Leu Lys Asn Glu Ala Val Arg  
 326 20 25 30

328 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
 329 35 40 45

331 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu  
 332 50 55 60

334 Gln Gln Ser Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg  
 335 65 70 75 80

337 Ile Gly Ile Ile Gln His Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser  
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346 <220> FEATURE:

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353 Asp Trp Thr Leu Glu Leu Leu Glu Leu Lys Asn Glu Ala Val Arg  
 354 20 25 30

356 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu  
 357 35 40 45

359 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu  
 360 50 55 60

362 Gln Gln Leu Ser Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg

**VERIFICATION SUMMARY**

PATENT APPLICATION: **US/09/485,421**

DATE: 07/30/2001

TIME: 16:07:29

Input Set : **A:\Upap0350.app**

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